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INGAA OBSERVATIONS

WORKSHOP ON GUIDELINES FOR INTEGRITY ASSESSMENT OF CASED PIPE

APRIL 28, 2010

Observations

- Status Quo
- Risk Management
- Integrity Management Program
- Performance Metrics
- Conclusions

Status Quo

- Consensus Standards
  - Pipe Design Standards
  - Casing Design
- 49CFRPart 192
  - Class Location Standards (Design, Operate, Maintain)
  - Reference Evergreen Consensus Standards
- Pipeline Operator Practices
- Research and Development
- Performance Metrics
  - Incident Reports
  - PHMSA Audits
  - Industry Discussion

Risk Management

- 60126. Risk Management
  - (b) REQUIREMENTS.- In carrying out a demonstration project under this section, the Secretary shall-
    - (1) invite owners and operators of pipeline facilities to submit risk management plans for timely approval by the Secretary;
    - (2) require, as a condition of approval, that a risk management plan submitted under this subsection ***contain measures that are designed to achieve an equivalent or greater overall level of safety than would otherwise be achieved through compliance with the standards contained in this chapter or promulgated by the Secretary under this chapter***;
    - (3) provide for-
      - (A) collaborative government and industry training;
      - (B) methods to measure the safety performance of risk management plans;
      - (C) the development and application of new technologies;
      - (D) the promotion of community awareness concerning how the overall level of safety will be maintained or enhanced by the demonstration project;
      - (E) the development of models that categorize the risks inherent to each covered pipeline facility, taking into consideration the location, volume, pressure, and material transported or stored by that pipeline facility;

Risk Management-Why Casings?

- Historical Practice
  - Distributed Weight Load??
  - Easy Replacement of Carrier Pipe??
- GRI Study on Need for Casings
- API / INGAA Request to PHMSA to Discourage Casing Installation Requirements
- New State Transportation Requirements are Popping Up
- PHMSA Progress????

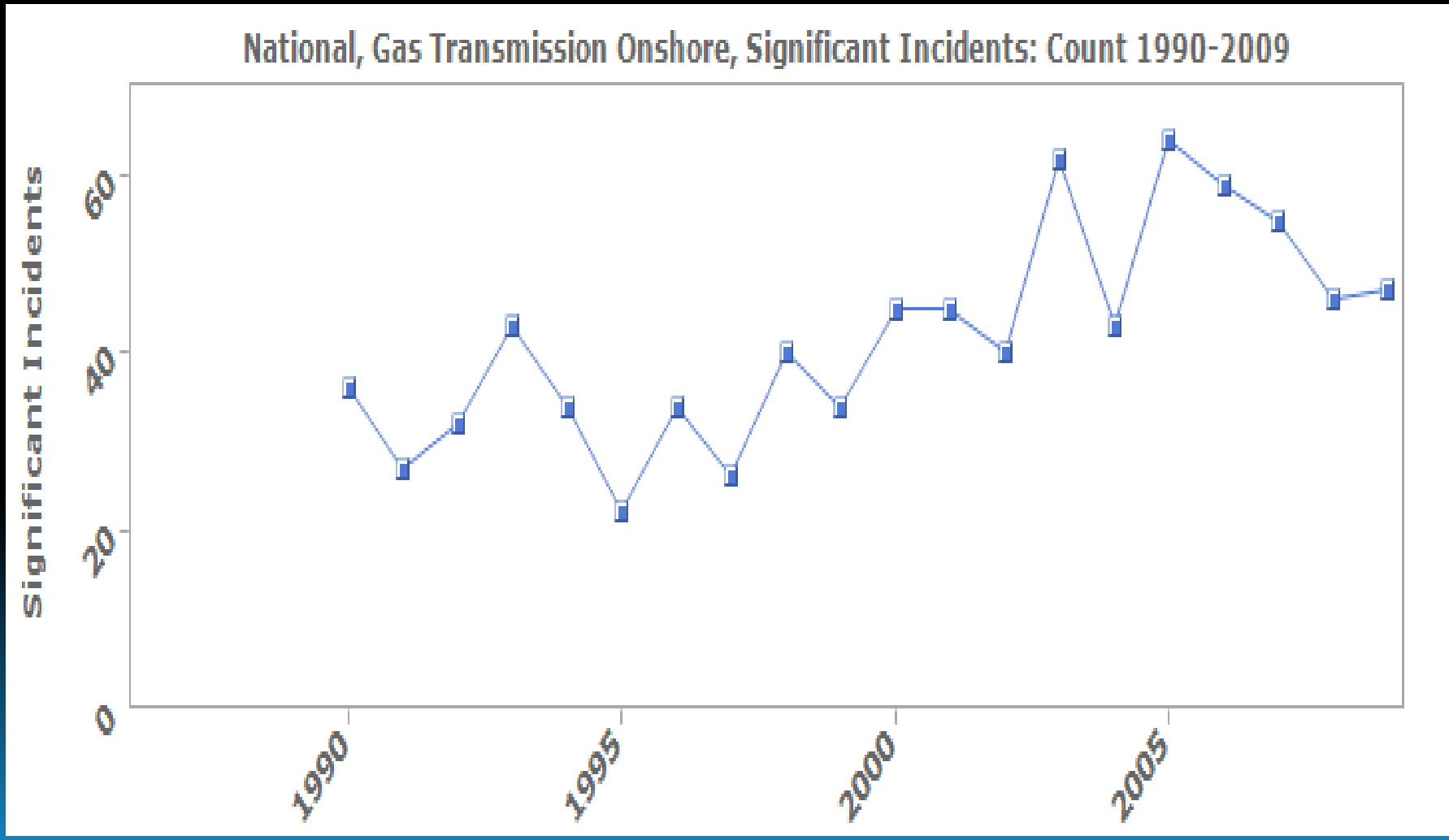
Integrity Management Program

- "(1) REQUIREMENT.—Each operator of a gas pipeline facility shall conduct an ***analysis of the risks*** to each facility of the operator located in an area identified pursuant to subsection (a)(1) and defined in chapter 192 of title 49, Code of Federal Regulations, including any subsequent modifications, and shall adopt and implement a written integrity management program for such facility to ***reduce the risks***.
- "(4) TREATMENT OF BASELINE INTEGRITY ASSESSMENTS.—In the case of a baseline integrity assessment conducted by an operator in the period beginning on the date of enactment of this subsection and ending on the date of issuance of regulations under this subsection, the Secretary shall accept the assessment as complete, and ***shall not require the operator to repeat any portion of the assessment***, if the Secretary determines that the assessment was conducted in accordance with the requirements of this subsection "
- "In prescribing those standards, the Secretary shall ensure that all inspections required are conducted in a manner that ***minimizes environmental and safety risks***, and shall ***take into account the applicable level of protection established by national consensus standards organizations."***

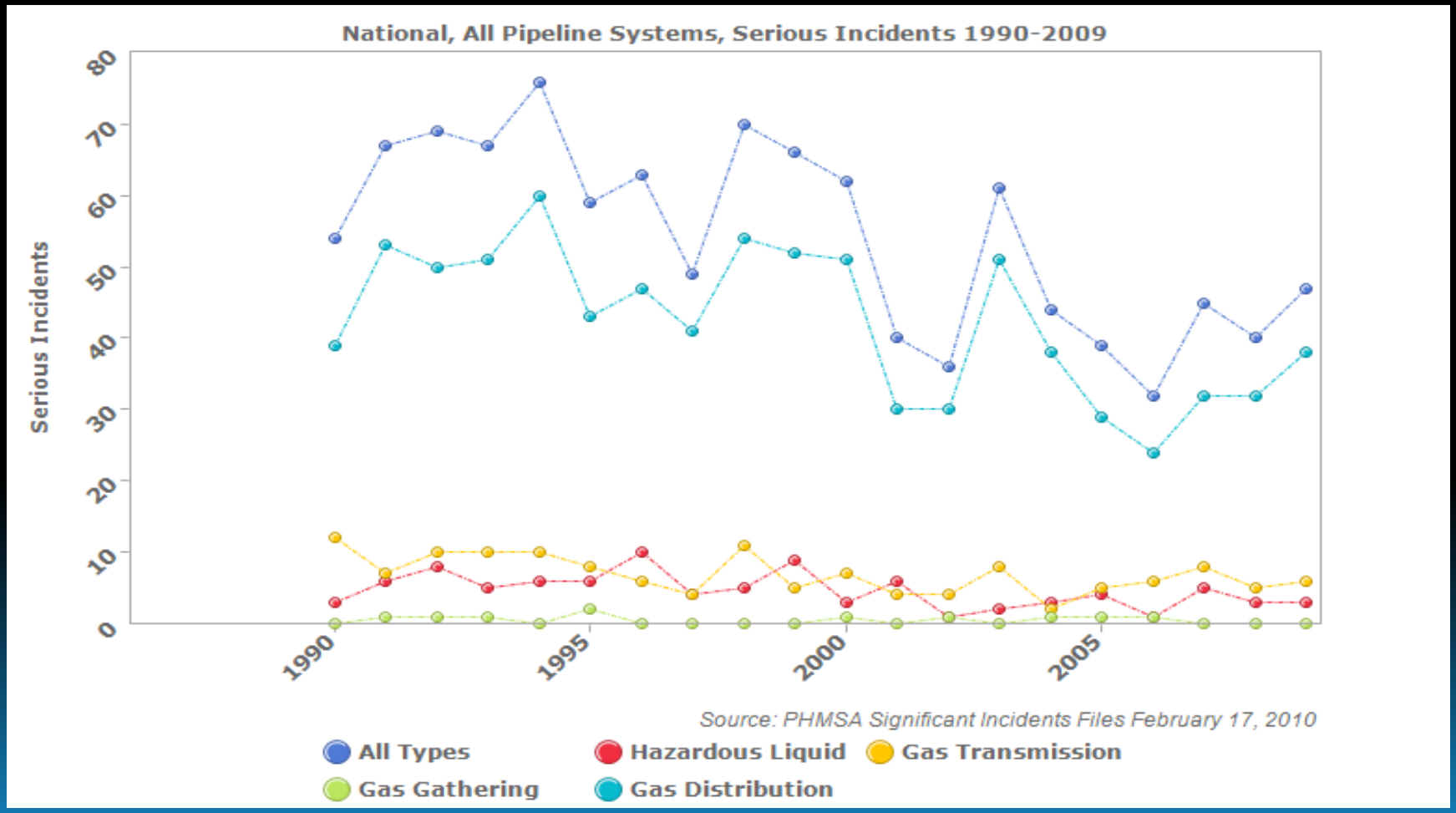
Integrity Management Program

- "The rule will ***significantly reduce the likelihood*** of pipeline accidents that result in ***deaths*** and ***serious injuries***. Based on the historical record, RSPA/OPS has estimated this ***benefit to be*** on the order of ***$800 million over 20 years***. It is quite likely, though, that future accidents could be worse than the historical experience."
- "This final rule requires operators to develop integrity management programs for gas transmission pipelines ***located where a leak or rupture could do the most harm***, *i.e., could impact high consequence areas* (HCAs)."
- "***Quantified benefits*** total ***$4.7 billion*** over the ***20 years*** analyzed. ***Costs*** over this same period are ***estimated*** to be ***$4.7 billion***."

Significant Incident Performance



Serious Incident Performance



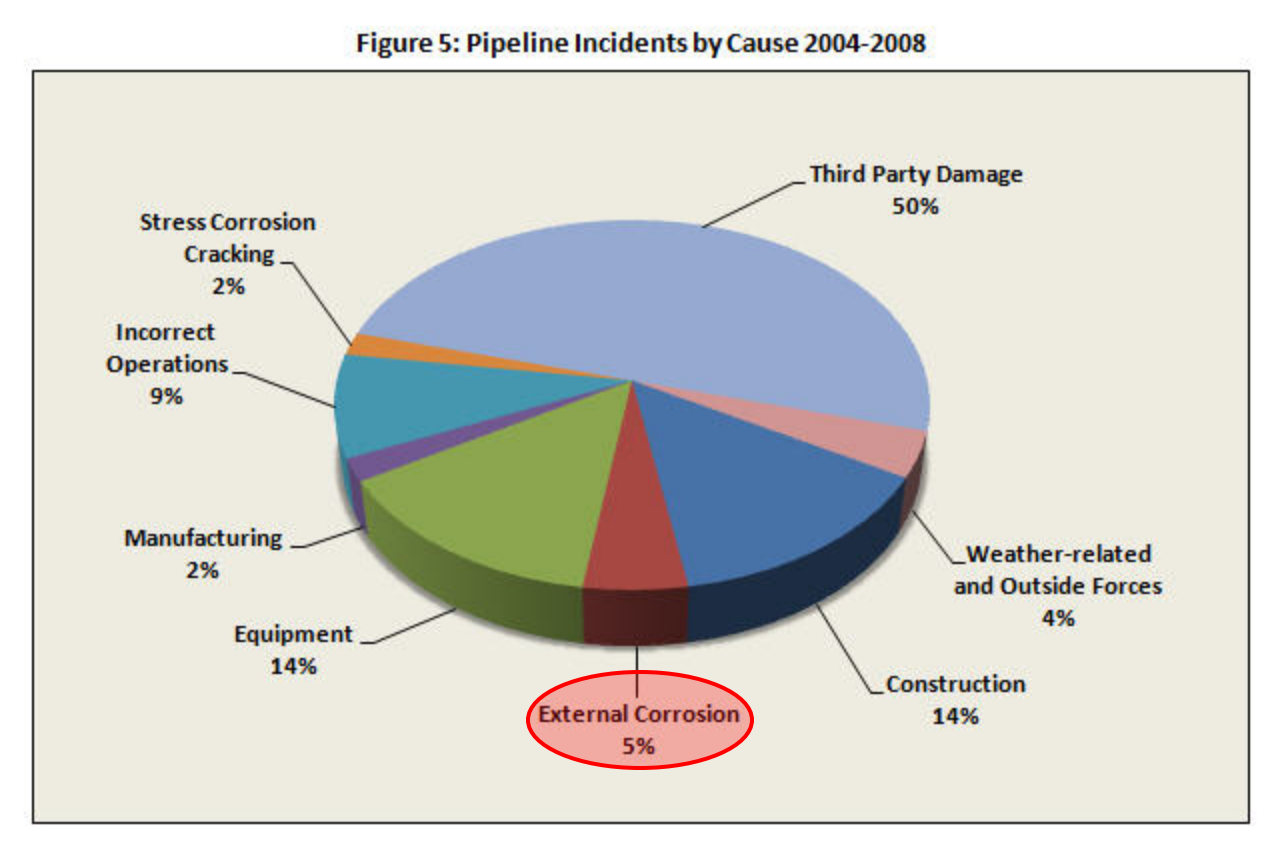
Impact on Safety & Environment

Natural Gas Transmission Onshore: Consequences
Summary Statistics: 2005-2009

Year	Public Fatalities	Public Injuries	Damage to Public Property
2005	0	0	$98,072,639
2006	1	2	$2,869,452
2007	1	1	$1,630,991
2008	0	0	$6,643,699
2009	0	0	$2,005,498

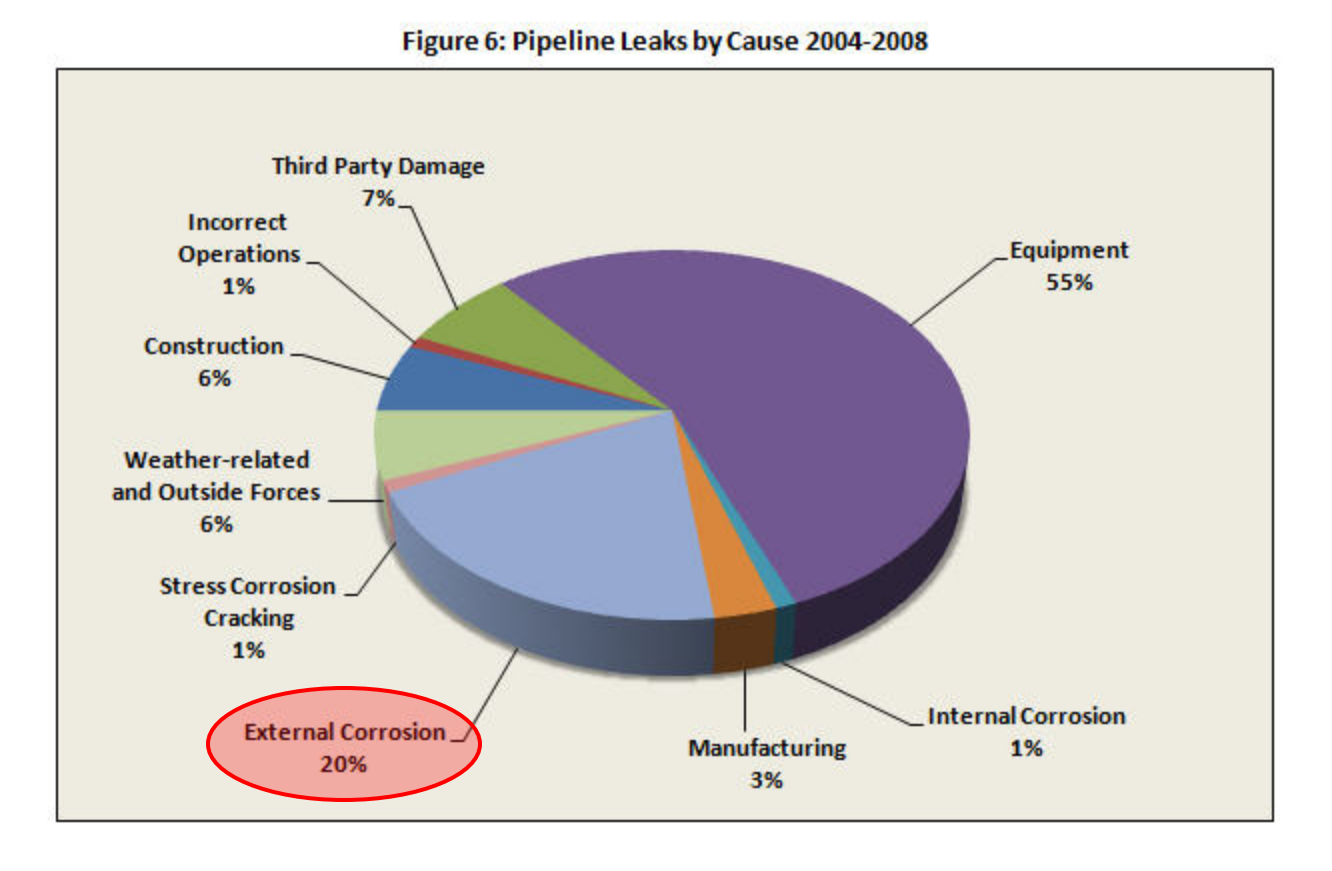
Table extracted from: http://primis.phmsa.dot.gov/comm/reports/safety/CPI.html | Report generated on: 03/09/10

Incidents in High Consequence Areas



http://primis.phmsa.dot.gov/gasimp/PerformanceMeasures.htm

Leaks in High Consequence Areas



http://primis.phmsa.dot.gov/gasimp/PerformanceMeasures.htm

Conclusions

- Stand Back and Look at the Forest
  - Are We Correctly Utilizing Risk Management Principles?
  - Are We Correctly Using Consensus Standards?
  - Are We Detecting and Measuring Risk Reductions?
  - Are We Correlating the Risk Reductions with the New Practices?
  - Are the Societal Benefits exceeding the Societal Costs?
  - Are There Ways to Improve this Process?